

ACRYLONITRILE**0092**

March 2001

CAS No: 107-13-1
 RTECS No: AT5250000
 UN No: 1093
 EC No: 608-003-00-4

Cyanoethylene
 2-Propenenitrile
 Vinyl cyanide
 $C_3H_3N / CH_2=CH-CN$
 Molecular mass: 53.1

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Highly flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking. NO contact with strong base(s) and strong acid(s).	Powder, alcohol-resistant foam, water spray, carbon dioxide.
EXPLOSION	Vapour/air mixtures are explosive. Risk of fire and explosion on contact with strong base(s) and strong acid(s).	Closed system, ventilation, explosion-proof electrical equipment and lighting. Use non-sparking handtools.	In case of fire: keep drums, etc., cool by spraying with water.

EXPOSURE		AVOID ALL CONTACT!	IN ALL CASES CONSULT A DOCTOR!
Inhalation	Dizziness. Headache. Nausea. Shortness of breath. Vomiting. Weakness. Convulsions. Chest tightness.	Closed system and ventilation.	Fresh air, rest. Refer for medical attention. See Notes.
Skin	MAY BE ABSORBED! Redness. Pain. Blisters. (Further see Inhalation).	Protective gloves. Protective clothing.	First rinse with plenty of water, then remove contaminated clothes and rinse again. Refer for medical attention.
Eyes	Redness. Pain.	Safety goggles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Abdominal pain. Vomiting. (Further see Inhalation).	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Give a slurry of activated charcoal in water to drink. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! Ventilation. Collect leaking liquid in covered containers. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Chemical protection suit including self-contained breathing apparatus.	<p>F Symbol T Symbol N Symbol R: 45-11-23/24/25-37/38-41-43-51/53 S: 9-16-53-45-61 Note: D and E UN Hazard Class: 3 UN Subsidiary Risks: 6.1 UN Pack Group: I</p> <p>Unbreakable packaging; put breakable packaging into closed unbreakable container. Do not transport with food and feedstuffs.</p>

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-30S1093 NFPA Code: H 4; F 3; R 2	Fireproof. Separated from strong oxidants, strong bases, food and feedstuffs. Cool. Keep in the dark. Ventilation along the floor. Store only if stabilized.

IMPORTANT DATA

Physical State; Appearance

COLOURLESS OR PALE YELLOW LIQUID, WITH PUNGENT ODOUR.

Physical dangers

The vapour is heavier than air and may travel along the ground; distant ignition possible.

Chemical dangers

The substance polymerizes due to heating or under the influence of light and bases, causing fire and explosion hazard. The substance decomposes on heating producing toxic fumes including hydrogen cyanide, nitrogen oxides. Reacts violently with strong acids, and strong oxidants. Attacks plastics and rubber.

Occupational exposure limits

TLV: 2 ppm as TWA; (skin); A3 (confirmed animal carcinogen with unknown relevance to humans); (ACGIH 2004).
MAK: skin absorption (H); sensitization of skin (Sh); Carcinogen category: 2; (DFG 2004).

Routes of exposure

The substance can be absorbed into the body by inhalation of its vapour, through the skin and by ingestion.

Inhalation risk

A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20/C.

Effects of short-term exposure

The substance and the vapour is irritating to the eyes, the skin and the respiratory tract. The substance may cause effects on the central nervous system. Exposure far above the OEL may result in death. The effects may be delayed. See Notes. Medical observation is indicated.

Effects of long-term or repeated exposure

Repeated or prolonged contact may cause skin sensitization. The substance may have effects on the central nervous system and liver. This substance is possibly carcinogenic to humans.

PHYSICAL PROPERTIES

Boiling point: 77/C
Melting point: -84/C
Relative density (water = 1): 0.8
Solubility in water, g/100 ml at 20/C: 7
Vapour pressure, kPa at 20/C: 11.0
Relative vapour density (air = 1): 1.8

Relative density of the vapour/air-mixture at 20/C (air = 1): 1.05
Flash point: -1/C c.c.
Auto-ignition temperature: 481/C
Explosive limits, vol% in air: 3.0-17.0
Octanol/water partition coefficient as log Pow: 0.25

ENVIRONMENTAL DATA

The substance is harmful to aquatic organisms.

NOTES

Depending on the degree of exposure, periodic medical examination is suggested.
Exposure to the substance will result in cyanide formation.
Also consult ICSC of a cyanide salt, such as 0671.
Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available.
The odour warning when the exposure limit value is exceeded is insufficient.
Rinse contaminated clothes (fire hazard) with plenty of water.
Card has been partly updated in April 2005. See section Occupational Exposure Limits.

ADDITIONAL INFORMATION

LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible